

An electro active device for generating a directional beam includes first and second electro active substrates each having first and second opposed continuous planar surfaces wherein each of the first opposed surfaces have a polarity and each of the second opposed surfaces have an opposite polarity. The first opposed surfaces of the first and second electro active substrates are in close contact. A first electrode is coupled to a junction formed by the first opposed surfaces having the same polarity, a second electrode is coupled to the second opposed surface of the first electro active substrate, and a third electrode is coupled to the second opposed surface of the second electro active substrate. A first endcap is joined to the second opposed surface of the first electro active substrate and a second endcap is joined to the second opposed surface of the second electro active substrate.